ORIOLE, in the Search for Evidence of OER in Teaching. Experiences in the Use, Re-use and the Sharing and Influence of Repositories

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Abstract

The study presented here aims to gather useful information on the use, re-reuse and sharing of resources in Education and also the influence of repositories, to better understand the perspective of individual practitioners and suggest future areas of debate for researchers.
Open Resources: Influence on Learners and Educators (ORIOLE) project, was based within the Institute of Educational Technology, The Open University (OU) from 2009-2013 and focused on investigating, understanding and disseminating about use and reuse of open resources in learning and teaching. This paper focuses on the second survey activity of this project. During 2011 (Pegler, 2012), an extensive online survey about reuse of educational resources was conducted through (mainly UK-based) practitioner communities. In 2013, a more international version was created (available in English and Spanish) and circulated during that year (http://bit.ly/OERsurvey_2013).
The ORIOLE Survey 2013 collected information about the contexts in which open resource use may occur, looking particularly at attitudes about reuse of educational resources (OER) in teaching. What influences open resources in education is a topic of relevance to anyone taking on forward engagement with open education and the answers lie with those who are working directly in the delivery of learning and teaching, and those who support this work.
It is hoped that this qualitative analysis will provide a deeper understanding of the differences in the motivation to engage with OER and the shifts in experience and expectations across diverse contexts.

ORIOLE, en la Búsqueda de Evidencias de Recursos Educativos Abiertos en la Enseñanza. Experiencias en la Utilización, re-utilización, Compartición e Influencia de Repositorios de Recursos Educativos

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Resumen

El presente estudio tiene como objetivo recopilar información útil sobre el uso, reutilización y compartición de recursos educativos y la influencia de los repositorios, para comprender mejor la perspectiva de los académicos y sugerir futuros ámbitos de debate a los investigadores.

Open Resources: Influence on Learners and Educators (*ORIOLE*) se basa en el Instituto de Tecnología de la Educación, The Open University (OU), el periodo 2009-2013 y trata de la investigación, comprensión y difusión del uso y la reutilización de los recursos abiertos en el aprendizaje y enseñanza. Este artículo se centra en la segunda encuesta llevada a cabo dentro del proyecto ORIOLE. Durante el año 2011 (Pegler, 2012) se realizó una amplia encuesta en línea acerca de la reutilización de los recursos educativos, a través de las comunidades académicas (principalmente en el Reino Unido). En 2013, se creó una versión más internacional de la encuesta anterior (disponible en Inglés y Español) que estuvo en circulación durante ese año (http://bit.ly/OERsurvey_2013).

La Encuesta ORIOLE 2013 recopiló información acerca de los contextos en los cuales se puede producir el uso de recursos abiertos, prestando especial atención a las actitudes acerca de la reutilización de los recursos educativos en la enseñanza. Qué influencia tienen los recursos abiertos en la educación es un tema de interés para cualquier persona involucrada en la educación abierta y las respuestas se encuentran entre los que están trabajando directamente en la impartición de enseñanza, y también entre los que dan soporte a este trabajo.

Se espera que este análisis qualitativo proporcione una comprensión más profunda de las diferentes motivaciones que juegan un papel en la adopción de los recursos educativos abiertos, las experiencias y expectativas que se presentan en diversos contextos.

Palabras clave: Recursos Educativos Abiertos, apertura, uso, reutilización, compartición, remix, motivaciones, financiación y políticas, repositorios, ORIOLE

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Open Resources: Influence on Learners and Educators project (ORIOLE) - based in the Institute of Educational Technology at the UK Open University- has tried, through a variety of strategies, to improve understanding of what experiences, expectations, motivations and challenges arise from the use, re-use and sharing of resources, including the role of repositories. In doing so, the project has drawn on existing research into the influence of reusable learning objects (RLO) (McGreal, 2004), recognising the contribution that earlier repository-based activity has made to understanding what barriers and opportunities educators and learners may encounter in the practice of resource reuse. The project recognises the complexity of tracking reuse, particularly of open resources (McAndrew, et al., 2009), which is a complex and two-sided process, requiring not only the effective offering (provision or creation) of resources but also their use/reuse in practice (sometimes in adapted forms) (Pegler, 2011). Simply offering resources for reuse, as learning object repositories have, provides an insufficient foundation to understand the current reuse that occurs.

In the UK, JISC has over an extended period invested in developing extensive online collections and repositories (e.g. Jorum; the UK national repository for further and higher education) as well as an infrastructure to support this activity. From 2010-2012, JISC together with the UK Higher Education Academy directed investment in supporting resource reuse towards funding projects which were based on open educational resources (OER) within the UK OER programme (McGill, et al., 2013). By the end of this period, most universities in the UK had been involved in at least one UK OER project as a member of a discipline consortium, an institutional initiative or through work led by an individual academic. In 2011, the ORIOLE project developed and distributed an online survey based on earlier UK-based RLO surveys and research, particularly the work on the CD-LOR (Community Dimensions of Learning Object Repositories Project) at Glasgow Caledonian University (Margaryan, et al, 2006). The 2011 survey, conducted by Chris Pegler (The Open University), was directed specifically at practitioners in the UK higher education and further education community with experience of sharing or reusing resources with learners or other educators. In 2013, a further survey was distributed, this time internationally in English and Spanish and with some modified questions. The addition of another language, and a more international focus

for the survey was made possible through the contribution of Gema Santos-Hermosa (Open University of Catalonia) who joined the ORIOLE project during a visiting fellowship to IET in late 2012.

Both surveys allowed the comparison of the opinions and reported activity of practitioners working within funded projects requiring some level of resource reuse or sharing and those who did not work in such projects. An early comparison of the differences between the 2011 and 2013 survey responses working in projects, and also the English and Spanish language responses for this question were reported in OER13 (Pegler & Santos-Hermosa, 2013). This paper focuses on the further development of the 2013 Survey. The ORIOLE Survey 2013 was extensive and ambitious in trying to obtain information on the expectations of reuse and sharing and also records of what activity underpinned these objectives. The data has been made available as open data on the ORIOLE website http://orioleproject.blogspot.com (2011 data with 2013 data forthcoming) and it is hoped that it can be remixed and drawn on by other researchers.

- The specific study from ORIOLE Survey 2013 presented in this paper tries to focus on how use, reuse and sharing of learning resources take part in teaching practice and what are the attitudes towards repositories. In order to understand this better and to find some evidences, comparisons between different target groups have been established. Some of the assumptions around these groups (which will guide the analysis of data and discussion of results) are the following :Practitioners who have been involved in funding project based on OER would be more familiar with reuse and sharing practices and, probably, also more motivated and convinced to use, re-use and share resources in their educational practice
- There might be difference between the English-speaking and Spanish-speaking surveys and contexts, the professional profiles (main interest in educators but also vs librarians or technicians) educators vs librarian or technicians) or respondents who already create and use/reuse educational resources as for their opinions about the use, reuse and sharing of resources in teaching and their perceptions about repositories.

It is intended to find out if the different characteristics or requirements among respondents can affect, to a greater or lesser extent, what they

reported. Thereby, we would like to shed light on the matter and confirm whether the presumptions and results obtained are meaningful.

Methodology

This study is based on the ORIOLE Survey 2013, which concerns the reuse and sharing of educational resources, particularly open resources, and it is intended to those who have an involvement or interest in this topic.

The ORIOLE 2013 questionnaire was developed based on a previous version, ORIOLE Survey 2011, and a remix of other earlier resources. This second survey conducted by ORIOLE was a more international version of the previous one, created in two versions (English and Spanish)[1] and adapted to a broader context.

Survey Design

The survey has a total of 34 questions[2] divided into 12 sections. There are two introductory questions dedicated to a *data protection agreement*, in which it is requested to agree to the Data Protection Act 1998 in order to have permission to use data for research purposes and at the same time, preserving anonymity.

Initial survey questions focused on establishing the *work context* of respondents. It includes questions about (where in the world they are working (Q3), type of educational system (Q5) and main role (Q6), policies and funding aiding the use and reuse of learning resources (Q7) and if they have, currently or previously, worked on a project requiring this (Q8-Q10).

Subsequently, a *branching question* (Q11) follows, which paves the way to two different routes of the survey:

1. Those who create or use/reuse educational resources
2. Those who do not create or use/reuse educational resources (not part of their work)

On the one hand, respondents answering affirmatively (1) are directed to the next section about creating and using resources and they can follow the standard survey until the end. On the other hand, respondents who answer negatively (2) are routed to a shorter version of the survey (from Q27 onwards), since we assume they are not involved with the creation and use

of learning materials , nevertheless, they have some kind of interest in the matter.

The next sections are dedicated to the *open activity and learning resources*: creating and using learning resources (from Q13 to Q15), adapting or reusing them (Q16 and Q17), choosing between alternative resources (Q18), sharing resources that they have made (from Q19 to Q23), motivation to share (Q24) and using other people's resources (Q25 and Q26).

The following set of questions is related with *Open Content and OER*: definitions (Q27 and Q28), attitudes and beliefs about them (Q29) and a last single question which explores about *sharing other than learning resources* with colleagues/others (Q30).

The later questions thank respondents for their participation: they are asked to leave their name and email contact (Q31 and Q32), to choose a charity they would support (Q33) and to leave any further comment – should they have one- (Q33).

The questionnaire consists mainly of closed-ended questions: response options to be chosen from a suggested list (one or multiple-choice questions), binary answers (yes or no) and different levels of agreement (fully agree, partly agree, and disagree) or consideration (very important, important, not important/applicable) to be valued from a given number of statements. At the end of the set of questions, an open-ended field is provided in order to let respondents formulate their own answer or provide further information. Moreover, there are three open-questions (Q10, Q32 and Q34) to specify the projects they are involved in (if applicable), their contact information or any other final comment. However, it is important to clarify here that to protect the integrity of responses, the participants in the survey were under no obligation to identify themselves individually.

Finally, the survey questionnaire was validated through pre-testing with a small sample of focus teachers (*n* = 3) before the distribution took place.

Sampling

ORIOLE 2013 was intended for a large population survey, and targeted to those related with education: educators, stakeholders and teaching support staff that had online access. Since the sample frame based on the total of teaching staff[3] around the world was too large and we were interested in

their practice (reports of what happens) rather than theory, we targeted those who use or share resources in practice or have the potential to do so and filtered out those who do not (by reporting in Q11 that 'Creating or using/reusing educational resources is not part of my work'). 92% of those taking part in both surveys reported that this (creating or use/reuse of resources or both) was part of their work. Those who reported that they were not using/reusing or creating resources (8% of deviation) were then routed out of the survey, hence, the responses reported here are those of practitioners in resource creation or use/reuse only.

The sample frame selected can give some indications of users' views on issues researched, but cannot be generalized for the whole teaching community. Accordingly, the survey was not attempted to ensure a representative sample. In this sense, some possible 'selection bias' of the survey, due to this unrepresentative sample, which should be taken into account are: undercoverage (which may occur since members of the population should have access to the Internet in order to answer the online survey); non-response bias (respondents differed from non-respondents, since the response rate is low) and voluntary response bias (sample members of a forum discussing about the main topic of the survey could be self-selected volunteers).

Selection Procedure and Data Collection

A randomized process for selecting units from the sample frame (selection procedure) and a method of contacting selected units and enabling them to complete the survey (data collection method) were followed.

The online survey was distributed internationally; mainly through forums, mailing lists, professional contacts and other networks. Individual emails with an invitation to answer the survey were also sent to people who were (or potentially could be) involved in sharing/using resources. Finally, there were other more general distribution channels, such as newsletters and websites.

The information-gathering tool selected for the data collection was the online platform *SurveyMonkey* and the analytic method adopted was quantitative. Statistical analysis, filters (to extract answers from specific profiles of respondents) and cross-tabs (to compare answers between questions and/or type of respondents) were made in order to facilitate data

interpretation and to propose some assumptions. Moreover, a review analysis of the literature was also carried out to contextualize the research and also to support or rebut the main themes that emerged during the data collection and analysis.

Finally, we would like to mention a practical note here. In order to show the analyzed data, a series of tables have been extracted from the Survey Monkey platform in excel format. The large and complete data (breakdown of numbers of respondents, absolute and cumulative totals, percentages, etc.) will be available as open data from the ORIOLE project website. However, in this paper we will offer customized tables (with selected most/less rated answers and percentages) in order to simplify and facilitate the readers' understanding.

General Data Description

The survey attracted responses from educational practitioners in resource creation or use/reuse. It was conducted on a sample of 241 people (280 started but 39 skipped[4]): 137 in the survey in English and 104 in the Spanish one. Fourty-five different countries throughout the world participated in the surveys: Spain and 14 Spanish-speaking countries (from South America) answered the Spanish one and the rest of 31 countries (from around the world) responded the English one.

The geographical spread is interesting, although there is a clear bias towards respondents from the US (22.4%) and the UK (10%) with respect to the survey in English and (33.6%) for Spain in the survey in Spanish.
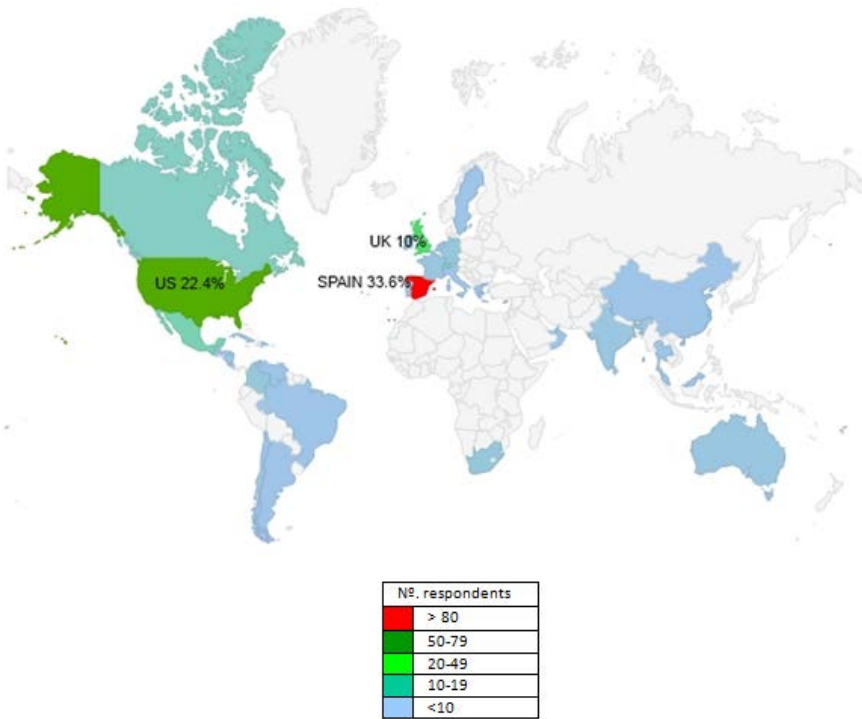
Nº. respondents
> 80
50-79
20-49
10-19
<10

Figure 1. Dissemination-map of the ORIOLE survey respondents

The most popular role was teaching (see figures 2 and 3): 34.8% of the English-survey respondents and 35.3 % of the Spanish one highlighted this as a main role. In both cases, there was a predominance (75%) of educators from Higher Education and more than 60% were involved in face-to face-teaching.
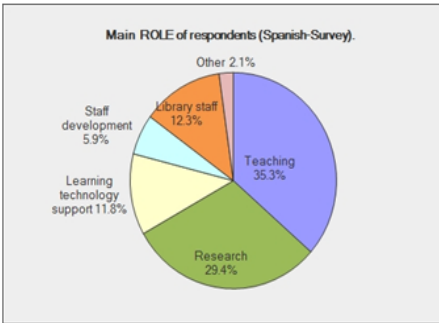
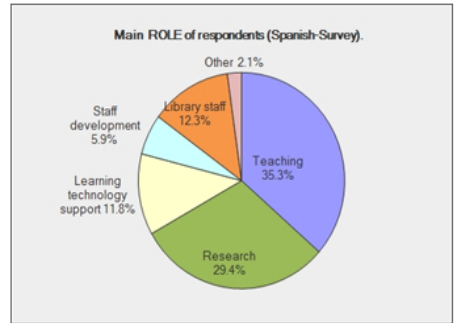*Figure 2*. Role of respondents (English Survey)

Figure 3 Role of respondents (Spanish Survey)

The 54% of respondents (52.3% educators) in the English-survey and 50% (42.6% educators) of the Spanish one worked on a project where there was a funding requirement to share or reuse educational content (table 1). These projects were of a wide variety (inter-institutional, governmental, international, national, local, etc), since more than 65% of respondents involved reported some information about them (Q10). As regards the provenance of those funded to share or reuse, 29.6% of the total (both surveys) were in Spain; 19.4% in the US; 12.9% in the UK.

Table 1
Do you currently work on a project which requires you to share or reuse educational resources (i.e. content which could be used in learning and teaching)? (Q8)

	English- Survey % (Nº. respondents)	**Spanish-Survey** % (Nº. respondents)	**TOTAL Respondents**
LINKED	54% (61)	50% (47)	**108**
NOT LINKED	45.5% (51)	50% (47)	**98**
TOTAL Respondents	**112**	**94**	**206**

The variety of the collected data allows a differentiated analysis between various target groups. These groups may support some of the assumptions of the study which are based on:-the variation between the two surveys

contexts represented (English and Speaking language countries; mostly respondents from Spain, US and UK)

Findings and Discussion

This section presents some findings for our research, organized around two topics which become the control variables of the study: A) open activity within teaching –create, use/reuse and share learning resources- and B) influence of repositories.

For the analysis, we have considered some specific sections and questions in the survey, those directly related with these themes and accommodated as useful. Then, we will describe the results obtained from the surveys, explore possible explanations around them and discuss their relation with the previous research in the field.

Finally, we would like to clarify (see more in the *Limitations* section) the exploratory nature of this analysis given the reduced number of answers obtained from respondents and the specific sample frame we are looking at.

Open Activity within Teaching: Design, Use/Reuse and Sharing

We will try to analyze here how use, reuse and sharing take place in the context of teaching practice, according to the results obtained in the surveys. We are interested, more specifically, about how educators decide to engage with use/reuse and sharing: their expectations, attitudes, preferences and requirements for using and sharing.

Between 63-73% of educators declared (Q11) they both create and use/reuse resources in their teaching; while 11-12% mainly create and 14-21% mainly use/reuse them. Educators create and use/reuse more for students (83.5-92.5%) rather than for colleagues or other types of audience (Q15). Regarding the subject area, they usually create or use these resources (Q13), more answers were collected in Social Science (53.13% in the survey in Spanish and 77% in the English one) and Education (around 31% in both surveys).

Next, we will describe, more specifically, responses as regards creating, using/ reusing and sharing learning resources.

Use

When educators were asked (Q18) about **what was important in order to choose a resource to be used**, the most and least important factors influencing their decision were shown in the following (table 2):

Table 2

Factors influencing educators when they choose a resource to be used (Q18)[5]

	Educators survey in ENGLISH	Educators survey in SPANISH
'Very important' factors		
There is no cost to use the resource	75.6%	68.6%
Useable without clearing copyright (open licenses or public domain')	67.5%	64.7%
Adaptation, remix or derivative	62.1 %	50.9%
Positive user ratings, comments or reviews	67.5 %	43.1%
Easy to upload or link to my teaching platform	54%	52.9%
'Not important/not applicable'		
Popularity	72.9%	47%
Rare or unusual content or formal	52.,9%	43.2%
Approved or used within my institution	51.35%	51.3%

The top three important factors for use contemplated by educators are also reaffirmed by those respondents who mainly both create and use resources (Q11), but they highlighted the statement '*useable without clearing copyright*' as the most important one. Indeed, tackling the legal issues in learning materials can be a powerful way of transforming open activities in education by reusing third party materials to create new resources (Cassey, 2006). The issue of IPR (Intellectual Property Rights) is one of growing importance and seems to increasingly permeate debate. Therefore, some actions are being carried out in this sense; for instance, the *TrustDR* project[6], which is devising some practical solutions to the problem of managing IPR in learning materials, and the *JISC Legal service* that works in the legal guidance for ICT use in Education[7].

Another important factor, not valued in the first positions (as one of the most 'very important') by educators, but also well rated considering the

sum of the scores 'very important' and 'important' (by 92.1% in the Spanish Survey and 83.78% in the English one[8]) is related with '*designed for reuse, e.g. stand alone and granular (small size) resource*'. This aspect is reflected as a facilitator for use/reuse throughout a wider research study.

Another survey (Dichev&Dicheva, 2012), distributed among Computer Science instructors[9], also came to similar results showing that most respondents seek learning components that are part of a lecture or an activity rather than larger units or a course level content. Other findings from the University of Nottingham (Windle *et al*. 2010), which looked at reusable learning objects for health studies, acknowledged that while increasing the 'specificity' of the objects can significantly reduce the potential for reuse, there was a necessary trade-off to reuse or share the objects with peers. Finally, research based on eye-tracking and remote observation to follow users of an OpenLearn[10] unit (San Diego & McAndrew's, 2009) suggests that although the unit may have been designed to follow a certain pedagogical sequence, logs show users may not follow the same sequence and users are typically seeking a single item per search. Thus, a single/small resource would usually lack an explicit narrative or learning outcome and therefore places much greater demands on the user to construct their own narrative (Lane, 2007).

It is also interesting to mention other reflections here about the use of resources that some of the respondents commented (answers extracted from an open field question in Q18), such as*: "to meet ADA[11] Standards for Accessible Design"*[12]*, "to be respectful with indigenous rights (UNDRIP[13])",* sustainability, user-friendliness and the possibility that the resources could be benchmarked.

Amongst the different assessments referred by educators regarding the use of learning resources, it has been observed that while the English-survey respondents considered '*the availability in languages other than English*' not important/not applicable (62.1 %), the Spanish ones were more likely to find this important (47%) and very important (39.2%).

Before going any further, we would like to point out that the main factors selected by educators when they choose a resource to be used are reiterated by the rest of the professional profiles surveyed. Additionally, the library staff incorporated the influence of resources '*recently created or updated*' (61, 9%) and the technologists added some other more technical aspects; such as '*incorporates interactive multimedia or other 'rich' media*'

(60%), '*description is accurate and detailed*' and '*adaptation, remix or derivatives permitted*' (56%).

We will now focus on responses related to those for which learning resources are designed, created or used/reused (consumers). When surveyed were asked if they **design, create or use/reuse learning resources for students, colleagues or for others** (Q14 and Q15), some differences between the Spanish and English contexts are observed (table 3).

Table 3
Designing and adapting learning resources[14]

	Responses in English-survey	Responses in Spanish-survey
Q14: Do you design or create learning resources…	% of YES (received responses)	
for students?	92% (72)	80% (91)
for colleagues?	64% (32)	35.5% (64)
for others?	39.3% (15)	16.5% (39)
Q15: Do you adapt or reuse learning resources…		
for students?	89% (70)	78% (70)
for colleagues?	59.6% (30)	33.3% (30)
for others?	39.3% (11)	12.2% (39)

Most respondents from both surveys declared they design or create (Q14) and also adapt/reuse (Q15) learning resources for students. However, regarding the creating and reusing of resources for colleagues or for someone else, there were differences between the surveys. In the survey in English, more respondents agreed to doing it for colleagues (almost the double of the Spanish one) and for others (more than the double).

More differences have been identified related to work and projects set up with support. Respondents (from both surveys in English and Spanish) who had answered they had the support of someone else to carry out some of the work (Q23), also stated to having created more resources for colleagues (53-78%) and others (50-60%) than those who had answered not having support (41-63% and 15-43% respectively).

An assumption to explain the results about the creation and use/reuse for others than student (that is, for colleagues or others), could have to do with the levels of specialization amongst the professionals who design, create

and adapt/reuse learning materials. This could be due, for instance, to the higher incidence of the instructional designers or educational developers in the different educational contexts (Siemens, 2008). This role would be directly implicated in the design, creation and use/reuse of learning resources for others (mainly educators instead of students) and could offer 'expertise' and guidance in. In this sense, there might be some particular contexts which have more instructional designers, as well as interdisciplinary teams, mediating in the learning resources' creation process (Power, 2009). On the other hand, the Spanish-speaking context might have educators that are more autonomous in designing, creating and adapting learning resources on their own and having less (or without) technical or instructional support (Cabero et al., 2010). Learning designers may provide an interesting help to educators, not only providing learning resources but also as guidance in making them able to take and adapt their materials (Conole & Weller, 2008). This is a challenging area with a range of issues of both a pedagogical and technical nature that requires further research.

To sum up, the attitudes and opinions expressed by surveyed educators regarding the use of learning resources were found to be aligned with sustainability (not cost associated), granularity (pieces for incorporation into their teaching plans), copyright and open licenses, availability (online and easy to download), quality systems (ratings and comments), accessibility, etc. They also seemed to be interested in being able to make adaptations from other learning materials, probably in order to keep content up-to-date,to stamp their individual style or to structure them for a different audience ('repurposing') (White & Manton, 2011; JISC, 2009). We will now tackle these issues deeply when analyzing the reuse activity.

Reuse

In Q16, respondents are asked about which factors influence their **<u>decision to reuse a learning resource</u>** and educators, of both surveys, highlighted the following positive influences (see table 4):

Table 4
Positive and negative influences in the decision to adapt or reuse (Q16)

	Educators ᴇNGLISH-survey	Educators SPANISH-survey
'positive influences'		
improving student learning quality	84.2 %	88.4%
reuse is a good thing to do	84.2%	84.6%
supporting my research activity	71%	88.4 %
the work is online, available for remix by others	84.2%	69.2%
good for my personal development	78.95 %	71,1 %
this saves me time	78.95 %	80.7%

From the answers collected, '*improving student learning quality'* is found to become a major reason for adapting learning resources amongst educators, who might reuse materials that meet and support learners' needs as well as making learning richer. This main influence expressed by educators could have to do with spending more time in pedagogy (designing learning strategies) rather than focusing on content generation (Gordon et al., 2002).

Some studies (Bond et al, 2008) suggest that the most effective way to reuse might not be to use a resource as it was created but changing the way a resource is used. Thus, there would be two levels of reuse (Willis et al., 2009; Littlejohn, 2003): reuse of an existing resource (which implies the material used as a learning object) and reuse of a resource as the model for another new resource (that implies the material used as a learning design). Engaging educators in participative design processes (such as developing customizable learning activities) would be essential both for adapting learning resources to their new context of use and to involve the educators in that 'recontextualisation'.

The factors stated by those who claimed that they both create and use/reuse resources (Q11) were very similar, although the assigned level of influence changed slightly. In their decision to adapt/reuse resources, they prioritized some reasons: 'the *work is online, available for remix by others*' (91%) and '*reuse is a good thing to do*' (90.9%) ahead of the rest of factors. These answers suggest that those who both create and use/reuse learning materials are more aware and knowledgeable about what is needed for

reuse. Since it has been stated (Pegler, 2011) that the widest spread of reuse is where the user and creator are the same, we could guess that this group of respondents could be more motivated for reuse. Some other reasons mentioned by educators as to why they might adapt/reuse rather than create resources are (open comment from Q16): '*to update resources, availability of many resources in my field*', '*alignment with a collectivist ideological orientation*', '*only in announcement of grants for OCW*', '*in case of institutional funding for research*', '*to set an example and to disseminate our message more broadly*', '*to access to other people's expertise/knowledge*', '*to increase general awareness of resource availability* and *because it is challenging/fun*'.

It is noticeable that educators responding to the English and Spanish surveys differed in their judgment about what was a positive influence and what had no effect/not applicable in reuse (see table 5):

a) '*My project, department or institution requires this*': while 63% of the English-survey respondents outlined that this had not affected influence (and 31% that had a positive one), the opposite happens in the Spanish-survey; where 61.5% of respondents considered it as a positive influence (and 36% displayed it as having no effect).

b) '*Improving my reputation or that of my team, department or institution*': the same pattern as the previous one is repeated here: around 60% of the English-survey educators answered that this has had no effect but 60% of the Spanish one manifest the contrary.

Table 5

Influences in the decision to adapt or reuse (Q16)

	Respondents ENGLISH-survey		Respondents SPANISH-survey	
	Positive influence	**No effect/not applicable**	**Positive influence**	**No effect/not applicable**
(a) My project, department or institution require this	31.5%	63.1%	61.5%	36.5%
(b) Improving my reputation or that of my team, department or institution	39%	60%	63.4%	34.6%

These answers prompt that respondents of the Spanish-speaking context are more dependent on their institutions when they reuse than respondents in the English survey. In addition, if we compare responses from those linked and not linked to projects which requires the reuse/sharing of resources (see table 6), we realise that differences are higher in the English survey - 28% in statement (a) and 17% in (b)- than in the Spanish one - only 8.4% of difference as for (a) and 10% in (b). These divergences suggest that English-context respondents perceived institutions as a more positive influence if they were linked to projects than if they were not, p (this is supported by calculating the χ2, chi-square statistic (6.736)[15], which offers the significance of the relationship between the two nominal variables), whereas Spanish-context respondents considered that institutions have a more positive influence in their decision to reuse, independently if they are linked or not to projects which require the reuse/sharing of resources.

Table 6

Respondents' linking to projects (Q8)

	Respondents ENGLISH Survey		Respondents SPANISH Survey	
	Linked	**NOT linked**	**Linked**	**NOT linked**
(a) My project, department or institution require this	53%	25%	68.4%	60%
(b) Improving my reputation or that of my team, department or institution	50%	33%	87%	77%
Dependence of variable of institutional influence (a&b) and to be linked or not to projects	Chi-Sq)= 6.736/ P value = 0.009449 Result is significant at p < 0.05		Independence of *institutional influence (a&b) and to be linked or not to projects*	

Thus, attitudinal drivers became important again for adapting and sharing resources, since having support (institutional or governmental policies and/or funded projects) and positive disposition towards the reuse is essential for educators' uptake of learning resources at both micro-individual and macro-institutional level (Masterman & Wild, 2011). Regarding the subject discipline affecting the reuse and repurpose of learning resources, educators who responded they mainly use/reuse

resources (Q11) were mostly from the Education subject area. It should not be a surprise to discover that the subject discipline may influence how likely educators find materials to reuse. Some subjects are in more demand than others as well as some disciplines may have restrictions or opportunities for users' repurposing, so in some areas consistent updating of references is very important (Law, Social Care and Health can be subject to sudden change, in law or in the processes controlling their profession) (Pegler, 2011).

In terms of consciousness about **using and adapting existing learning** resources (Q17), 50-60% of educators feel that they currently do not use and adapt existing learning resources as much as they can. This is likely due to some of the inhibitors and barriers for effective reuse, identified by previous studies (OECD, 2007; OLCOS, 2007; OPAL, 2010): no trust in others' resources, lack of time, lack of interest and motivation, lack of a reward system, lack of policies to support it, lack of accessible technologies, lack of quality content, lack of skills and technical capacities among the educational communities. Other boundaries that would distance users from re-purposing are the critical mass of available content, problems of interoperability of repositories and tools, copyright issues, cultural differences (Pawlowski & Zimmermann 2007; Davis *et al.* 2010).

As regards **concerns about using resources created by someone else (Q25),** at least more than half of the surveyed educators agreed on the following assessment (table 7):

Table 7
Concerns about using resources created by someone else (Q25)

	Respondents ENGLISH-survey	Respondents SPANISH-survey
'Important' factors		
Might be inaccurate or out-of-date	88.2 %	68.6%
Not enough high quality	61.7 %	70.8%
If online, the site may change or disappear	67.,6%	62.50 %
Would need to make changes before using	67.6 %	67.6 %
Have infringed copyright	61.7%	64.8 %
'Not important' factors		
Others using the same resources (exclusivity)	76.4 %	70.8 %
The different style may confuse students	55.8 %	68.7 %
Altering someone else's work	67.6%	56.2 %
Miss the creative buzz	63.6%	52. 9 %

According to these results, educators identified accuracy, quality, online availability and copyright as 'important' issues when using learning resources made by others. Those factors are essential to make clear that there is work involved in reuse and that users should take into account some parameters when they create materials to be reused.

Indeed, one of the most important concerns for use/reuse is the perceived lack of quality. Even though the efforts might be spent on achieving quality assurance (such as the generic International Standards Organisation- ISO[16]; the European Foundation for Quality Management – EFQM or other quality instruments such as ranking, peer review or recommender systems), the value and the awareness of users about quality is a main concern. There are also other related variables of crucial importance; like the cost of applying quality approaches, the stakeholders' perceptions and actions and trust (Clements & Pawlowski, 2012). In this sense, trust in the resources available from others also becomes another important barrier for reuse; understanding the lack of reliability of educational resources, of individuals who created them or institutions where they belong to. Other surveys have also detected this factor as the main one that stops the reuse of educational resources (Bates et al., 2006), followed by the lack of quality and lack of Internet connectivity.

We can see a direct relationship between some of the variables that respondents have already identified as inhibitors of reuse: quality and trust. According to Clements and Pawlowski (2012), this 'trust' in (1) organizations; (2) individuals; (3) resources; and (4) technologies could facilitate the search of 'high-quality' learning resources and therefore to increase 're-use' of OER. Effectively, trust could be a key instrument in facilitating the process of re-use for educators. However it does not automatically provide quality, since it might help to find resources of quality but still leaves educators the task of evaluating about whether the resource is re-usable for their needed purposes and context. Thus, trust is connected with quality but only facilitates parts of the re-use process for users.

Share

At this point, we will describe how educators **create resources to be shared** (Q22), **how they share them** (Q19-21 and Q22) and what is their

motivation to do it (Q24). It is also intended to go one step ahead in the study about sharing, in order to know **how other resources that are not educational are shared** for learning, with students, or for research with other colleagues (Q30).

Educators displayed different motivations and interest in order to share resources (see table below). Again the main benefit largely viewed (Q24) is improving the student's learning quality and the positive consideration about reuse. From these responses, like in the case of reuse, educators seem to share materials that might improve the process of learning as well as showing awareness about sharing as a benefit. Some other less altruistic influences for sharing are to support the existing research activity, interests or professional developmen*t*. However, the possibility of reward is believed to have less effect on the decision to share. This could be considered as surprising since respondents of other surveys (Masterman& Wild, 2011) concurred unequivocally with the importance given to this statement, pointing to the need for appropriate reward systems to be established to help reuse and sharing and to ensure the sustainability of existing resources. On the other hand, there is the assumption that educators' creativity and imagination also plays an important role (Littlejohn, 2003).

Table 8

Factors influencing educators in their decision to share resources (Q24)

	Educators ENGLISH-survey	Educators SPANISH-survey
'positive' influences		
student learning quality improved	78%	98%
reuse, is a good thing to do	88.8%	84.7%
increases the use of resources	83.3 %	90%
supporting existing research activity or interests	83.3 %	85.4%
good for my professional development	58.3%	56.59%
possibility of reward	56.5%	58.3%

Educators surveyed also responded they frequently (32-36% of respondents), sometimes (42-44%) or rarely (17-20%) share `**finished'** **learning resources** (Q19) with practically everyone except their students. As for **'in progress' learning resources** (Q20), 27-32% of educators answered that they share them frequently; 42-43%, sometimes and 16-20%, rarely. Although there is not much difference between the responses, a

general preference for sharing 'finished' resources rather than the ones 'in progress' is observed. In addition, 69.4% of the Spanish-survey respondents outlined they would consider sharing learning resources in the future (Q21) and only 37% of the English-survey answered the same. These last responses could be due to the fact that they already share as much as they are likely to or wish to.

Some of the most popular considerations given by educators, about **making learning resources suitable for sharing (Q22)** are the following:

Table 9
'often' ways to make resources available for sharing (Q22)

Q22: 'often' ways to make resources available for sharing	Respondents ENGLISH-survey	Respondents SPANISH-survey
to check accuracy /gramar	71.4 %	82.9%
to check copyright	57.1%	59.5%
change file format	59.5%	48.9%
improving the appearance of materials	45.7 %	74.4%
including references before sharing	45.7 %	74.4%
deposit in a repository	25.7%	74.4%
upload them so they can be found	55.8 %	68.7 %

These reasons suggest that educators invest some effort and time in assuring the quality and reusable form of resources before sharing them. They also take into account some technical aspects that would facilitate the reusing and sharing of resources. This might point out that educators anticipate technical issues which help to generate more sharing, since having resources available for sharing create opportunities for reuse and vice versa.

Something that is noticeable is the level of divergence between respondents of the surveys in Spanish and English. In the first case, Spanish educators have more consideration for improving the appearance of materials and including references before sharing, depositing in a repository and uploading them so they can be found (51% 'often' do it while 48.8% of the English-respondents would 'never' consider this factor). Furthermore, *'translation into another language'* is less considered by the English-survey

respondents, who 'often' (5.7%) do it, 'occasionally' (11.4%) or 'never' (68.57%). They would not need to do it, as English is the international language for the exchanging of academic information. However, educators in the Spanish-survey highlighted this aspect of translation (59.5% of them do it 'often' or 'occasionally' and 34%, 'never'); this is probably because it would be necessary if they want to share their learning resources internationally, instead of maintaining them in their language and sharing them locally. In fact, according to the results of previous surveys (OPAL, 2010), the availability of OER in the user's language constitutes a barrier which would point to public policy and institutional policy intervention to support learning resources supply from a multi-linguistic perspective.

As for respondents who specifically argue both creating and reusing resources (Q11), the top three aspects chosen to make a resource suitable for sharing (Q22) are to '*check the copyright*', the '*accuracy and grammar* and to '*add references and acknowledgements*' (62-72% of respondents); all of them related with the quality of the resources to be shared. This reminds us of the connection between use, reuse and sharing: the experience of using resources and making them suitable for reuse implies they are also prepared for sharing.

Influence of Repositories

Global Computation (All Respondents)

In this case, we will first of all show the global computation (all respondents) to identify some insights and examples of what respondents valued.

The '*availability of a trusted or familiar* repository' is one of the factors to be chosen in questions 16, 18 and 24 *of* both surveys. Table 10 shows the incidence of this factor (importance and influence) according to the respondents:

Table 10
The 'availability of a trusted or familiar repository' is:

	Respondents ENGLISH-survey	Respondents SPANISH-survey
'*important*' when they choose a resource **to be used (Q18)**	47.7%	56.7%
a **'positive influence'** in their decision **to adapt or reuse (Q16)**	**73.6%**	**80%**
a **'positive influence'** in their decision **to share resources (Q24)**	63.4%	73.2%

From the answers gathered, it is encouraging to observe the importance and positive influence that trusted repositories appear to produce in respondents. Nonetheless, we should also take into account that 'availability of a trusted' repository as being one of the factors to be selected from a list of influences for use, reuse and sharing. Therefore, there were other factors ahead with equal or more positive rates.

Some assumptions that emerge from these first data are that repositories may be perceived as a more important influence for adaptation/reuse and even sharing of learning resources rather than for their use.

Although many developments have been made in the design and functionality of repositories as well as in the encouragement of their use (recruiting potential users via liaison programs; improving technical aspects of repositories; creating Open Access institutional policies; etc), the efficient use of them is still questionable. Into the bargain, it is difficult to find evidence in the literature that repositories are used. A review of the research about MERLOT (Shea et al, 2006), found that it was the most prominent repository of educational resources, as regards number of uploaded material and registered users, but its real use could not be established. This study concluded that MERLOT had not 'consumers' at all, only innovators and inventors who review and evaluate other contributions.

Other studies suggest (Dichev & Dicheva, 2012) that the use of content repositories is largely due to the traffic that search engines direct to them. Thereby repositories could increase their use by adapting to the searching behavior of the user; for instance, through standard metadata which makes the content understood by search engines and hence, found and used. Some other main features valued in the repositories were the quality control of the hosted material and the release of the content under open content licenses.

Functionality and efficiency of repositories could as well be one of the other main issues to be improved in repositories. Finally, it is remarkable that the concentration on ontologies and the semantic web is gaining popularity in enhancing educational resources by means of being used and shared among educators (Yalcinalp & Emiroglu, 2012).

These global results also indicate that respondents in the Spanish-speaking context seem to have a better consideration of the repositories than those of the English survey. This pattern differs from the one obtained in a previous survey, launched by JISC in the UK, with respect to academics' use of repositories (Bates et al., 2006). In this case, the English-respondents had a positive experience in the use of repositories (reflected in the responses of ease of use and time for locating material) and they declared to be familiar with the JORUM and MERLOT repositories. From that time till now, repositories have evolved; just like the perception of users about them. Consequently, further research is needed in order to know users' thoughts and expectations about current repositories.

Specific Samples of Respondents (Target Groups)

Some specific samples of respondents will now be analyzed in order to see if there are differences from previous results or this behavior pattern is repeated again. Thus, we will focus on responses from two specific target groups: one related with professional profiles (librarians and educators), and another one formed by respondents involved or not in projects requiring the reuse and sharing of educational materials. We intend to test if library staff would weigh in favour towards the functionality of repositories more strongly, as well as would those linked to funded projects.

Educators vs Librarians

The data collected about the incidence of the '*availability of a trusted/familiar repository*' in the use, reuse and sharing of learning resources showed some 'curiosities' as commented here in table 11:

Table 11
Repositories as a 'positive influence' or an 'important' /'very important' factor to:

	EDUCATORS		LIBRARY STAFF	
	ENGLISH Survey	**SPANISH** Survey	**ENGLISH** Survey	**SPANISH** Survey
Use (Q18)	16.1%	58.1%	33.3%	**61.5%**
Reuse (Q16)	63.1%	85.1%	**100%**	75%
Sharing (Q24)	58.3%	**80.1%**	76.9%	66.6%

- As a factor in the decision to use, it appears to be more 'important' for educators in the Spanish-survey than in the English one. Furthermore, 28% of the English-survey respondents restated their position by expressing that trusted repositories were 'not important' in contrast with 5.8% of the Spanish one, who even selected repositories in fourth position of importance[17]. If we compare the responses of the librarian staff, the responses are also higher (almost the double) in the Spanish context than their colleagues in the English survey. Although we obtained few responses from librarians, they seem to place more importance on 'repositories' as a factor of use than educators (even more than English librarians)
- As for adapting/reusing, educators of both surveys appear to be much more aware than in the previous postulation. While 85.4% of the Spanish-survey respondents found trusted repositories as a 'very important' factor to reuse and rated this in the third place, the English one surveyed were less (63.1%) and positioned it in sixth place after other top factors. In this case, librarians seem to be very convinced (75-100%) about the positive influence of repositories in the reuse of learning materials.
- Regarding the influence of repositories in sharing, educators in the Spanish-speaking context seem to be more in favor than library staff of the same context (85% in contrast with 66.6%). According to the chi square calculation (4.2025 and P value=,

0.040365), in this case there is a dependence between the variables Educators/librarian as for sharing. However, in the English-survey the results are the contrary: librarians' consciousness is higher (76.9%) than that of educators (58.3%).

We can behold again (as previously identified) that the educators of the Spanish-survey have a more positive consideration about repositories when they use, reuse (specially) and share learning resources than their English-survey's colleagues. On the other hand, most agreement has been observed between the two selected professionals groups, which seem to be related with reusing learning resources; which got the most positive responses (63-100%). In this case, it is worth noting that librarians of the English-survey were 100% in agreement. Finally, repositories were also approached as an important influence when sharing resources, especially by educators of the Spanish survey and library staff in the English one.

Why do these different patterns of awareness about repositories exist? Some interpretations to discuss this question could be the following: the '*shareability*' of learning resources through interoperability between repositories and the existence of online communities of practice (CoP) encouraging the dissemination and sharing of resources in repositories.

Educators from other researches (Yalcinalp & Emiroglu, 2012) mentioned the importance of operability across various repositories as well as the interrelation of educational resources in the same repository. In this sense, the provision of technologies that enhance the '*shareability*' of OER through interoperability between repositories would provide an opportunity of sharing resources among educational institutions. This could explain the high awareness of librarians and repository developers regarding the possibilities of repositories in aspects of reuse and sharing.

On the other hand, the rise of teaching CoP for the development and sharing of educational resources may encourage the dissemination and reuse of learning materials in collaborative environments and platforms, such as repositories. There are some experiences supporting this assumption. For instance, for educators of the repository Share.Tec[18] (Banzato, 2012; Carramolino & Rubia, 2013), the reuse of digital resources was of considerable importance in their professional practice. Moreover, educator users of the LORO repositories (Beaven, 2012) and CIRAX (Santos-Hermosa et al., 2013) had the opportunity to share resources and practices, to discuss with peers who have different experiences but common

interests, to develop their professional learning and, finally, to improve their teaching. CoP enhances not only the sharing of knowledge but also promotes educators' creativity by enabling the creation of something new (Tosato, 2011). Therefore, this could explain the interest and predisposition of educators for sharing.

Respondents Linked or Not To Funded Projects

Table 12
Repositories as a 'positive influence' or an 'important' /'very important' factor to:

	LINKED TO PROJECTS		NOT LINKED TO PROJECTS	
	ENGLISH survey	SPANISH survey	ENGLISH survey	SPANISH survey
Use (Q18)	**78.7%**	100%	72.5%	89.1%
Reuse (Q16)	76%	**97.3%**	74.3%	100%
Sharing (Q24)	68.8%	**82.3%**	67.5%	72.7%

The data indicates that, in the English survey, there are not many differences between respondents linked or not linked to funded projects, so answers and rates are quite similar as for the importance given to repositories when choosing the use, reuse or the sharing of learning materials. In the Spanish survey we can observe something similar except in the case of use, where respondents linked to funded projects have a more positive consideration about use (100%), which is supported by chi-square calculation than those not linked (this is supported by thechi-square statistic:4.2286. The P-Value is 0.039749. The result is significant at $p < 0.05$).

Finally although it is encouraging to observe the high level of interest expressed by respondents towards repositories, it should be highlighted that there is a difference between 'awareness' and 'contributions'. Therefore, having a 'positive influence' or considering repositories as an 'important' /'very important' factor on the respondent's decision does not necessarily mean that respondents use, contribute or share learning resources deposited in repositories.

Conclusion

In this paper, we based our empirical study in the attitudes and opinions of the ORIOLE Survey respondents, together with the analysis of the literature about OER. While our study confirmed many statements based on previous surveys and studies, it also identified some interesting indicators and showed areas where further research would be particularly helpful to confirm or expand on our findings.

ORIOLE Survey has pointed out that, in the decision to use, re-use or share educational resources in the context of teaching practice, some of the most important factors displayed were quality (accuracy, updating, positive ratings and comments), copyright issues, granularity (in order to customize resources to suit different educational needs), availability (online access and easy donwload) and economy (no associated cost). Indeed, the survey itself raised interest of improving student learning quality and awareness of re-use as a 'good thing to do'. These preferences mainly expressed by educators were also reiterated by the rest of the professional profiles even though, in some cases, each group displayed their peculiarities. As for those other respondents, who claimed they both create and use/reuse learning resources or they are linked to projects which requires this, prioritized the factors more related with the repurpose of resources (availability for remix, checking the copyright, accuracy, etc.). These attitudes suggest more awareness and knowledge about what is needed for reuse and an increased susceptibility to use, reuse and share educational resources.

Although, in general, respondents of the English and Spanish surveys had no significant variations in their responses, occasionally they differed in some of their evaluations. This has showed some hypothetical patterns which might be worth further studied; such as the inclusion of instructional designers to participate/support the creation of resources, the dependence of institutions regarding the influences in the decision to adapt or reuse, the importance of the resource's language, etc.

ORIOLE Survey has also collected considerations about trusted repositories as a positive factor in the use, reuse and sharing of educational resources. A behavior pattern which has emerged from surveys' responses is that repositories are perceived as a more important influence for adaptation and sharing rather than for the use of learning resources. As commented in the discussion, this is probably related with the development

of the repositories, which have evolved from archiving and preserving resources to incorporate them in educational practices (Santos-Hermosa et al., 2012), and the '*shareability*' of learning resources included through interoperability between repositories.

Repositories have carried out diverse practices to encourage their use and to gain educators' awareness (Primary Research Group Staff, 2011) and currently there is also a need for re-thinking their role. One of the most effective ways to improve acceptance of repositories seem to be the willingness to respond to people's concerns and queries in an efficient manner. In this regard, repositories of learning resources based on communities of practices (CoP) might be an opportunity to be used beyond resources' preservation and to promote micro trading economies where resources are exchanged (Campbell, 2003). CoP is also seen as the key quality assurance task force, providing peer-reviewing and recommendations to other users in the community (Larsen & Vincent-Lacrin 2005; Auvinen, 2009). Therefore, we consider that activities around using, repurposing and remixing OER in repositories can be achieved if they are integrated in teaching professional development and ultimately becoming community-driven. At this stage of development of repositories, this system should be sustainable and would meet the requirements of the educational context. New experiences to foster communities of teachers around educational repositories (Beaven, 2013; Tosato, 2013) might bring new and hopeful results.

Finally, to round off our study in a encouraging and future-oriented way, we believe that some of the emergent issues commented in this paper will be able to further studied in the coming years, since fortunately they are included in the agenda of international organizations (UNESCO, 2012; Johnson et al., 2012; European Comission, 2013) in the coming years. For instance, recommendations about the creation and use/reuse of OER as part of the professional development of teaching staff or the benefits of sharing and collaboration between institutions and their academics .

Limitations and Future Work

One of the main limitations of this survey has been the low number of answers and their concentrated location, despite the dissemination carried out internationally. In addiction, there was a lack of completed surveys

provided by respondents; which may be due to the length of the questionnaire. All of this calls for great caution in interpreting the results.

On the other hand, the ORIOLE survey was focused on obtaining perceptions and attitudes about open content, OER, use, reuse and sharing of learning materials. There was an implicit expectation of these areas; however, it does not provide any empirical data about the actual practices of use/reuse and sharing. Therefore, these open activities cannot be actually evident. Further investigation into the use/reuse and sharing and its implications for teaching would be of utmost interest.

Acknowledgement

Notes

[1] They are available online or in pdf format:
English: http://www.surveymonkey.com/s/ORIOLE_E/
https://docs.google.com/file/d/0B77aM81pfNQ5MmdCTzRFNFJXWnM/edit
Spanish: http://www.surveymonkey.com/s/ORIOLE_S
/https://docs.google.com/file/d/0B77aM81pfNQ5T0dsdHJFTVNtZG8/edit)
[2] Idem note i
[3] According to the UNESCO Institute for Statistics (UIS) and its *UIS Public report of education*, the estimation of the total world sum of teaching staff would be 82,371,184 (population data based on the 2012 revision of the World Population Prospects).
[4] For the analysis we have excluded those who did not answer (skipped questions) and just worked with the valid answers.
[5] This is a selection of the most and least rated answers
[6] funded by the JISC in the UK: http://www.jisc.ac.uk/whatwedo/programmes/digitalrepositories2005/trustdr.aspx
[7] http://www.jisclegal.ac.uk
[8] 27 respondents answering 'very important' plus 20 saying 'important', out of 51 (in the Spanish Survey) and 13 respondents answering 'important' plus 18 'important' respondents, out of 37 (in the English Survey)

[9] 374 respondents, from different university categories and various geographical regions
[10] Open Learn is the repository of free educational resources of the Open University UK: http://www.open.edu/openlearn
[11] Americans with Disabilities Act (ADA)
[12] http://www.ada.gov/2010ADAstandards_index.htm
[13] United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP): http://www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf
[14] This is a selection of the affirmative answers (respondents could also choose "no" and "not applicable" and to give more than one answer).
[15] English data: The Chi-square statistic (Chi-Sq)= 6.736. The P value is 0.009449. This result is significant at $p < 0.05$.
[16] There is the specific ISO 19796-x standards series for educational organizations and educational resources
[17] They chose behind the factors 'there is no cost associated', 'Useable without clearing copyright (open license or public domain)'and 'Recently created or updated'.
[18] http://www.shartec.eu/it/

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